REMARKS / ARGUMENTS

This application is believed to be in condition for allowance because the claims, as amended, are believed to be non-obvious and patentable over the cited references. The following paragraphs provide the justification for this belief. In view of the following reasoning for allowance, the Applicant hereby respectfully requests further examination and reconsideration of the subject patent application.

1.0 Rejections under 35 U.S.C. §102(b):

In the Office Action of August 18, 2008, claims 1-8 and 11 were rejected under 35 U.S.C. §102(b), as being anticipated by U.S. Patent 6,377,931 to Shlomot (hereinafter "***Shlomot***").

A rejection under 35 U.S.C. §102(b) requires that the Applicant's invention was described in patent or printed publication more than one year prior to the application for patent by the Applicant. To establish that a patent describes the Applicant's invention, *all of the claimed elements of an Applicant's invention must be considered, especially where they are missing from the prior art*. If a claimed element is not taught in the referenced patent, then a rejection under 35 U.S.C. §102(b) is not proper, as the Applicant's invention can be shown to be patentably distinct from the cited reference.

In view of the following discussion, the Applicants will show that one or more elements of the Applicants claimed invention are missing from the cited art, and that the Applicants invention is therefore patentable over that cited art.

1.1 Rejection of Independent Claim 1:

The Office Action rejected independent claim 1 under 35 U.S.C. §102(b) based on the rationale that the ***Shlomot*** reference teaches the Applicants' claimed "system for providing adaptive playback of an audio signal received across a packet-based network…"

However, the Applicants respectively suggest that independent claim 1 is patentably distinct from the cited reference, and that the Office Action has incorrectly characterized the ***Shlomot*** reference in an attempt to show equivalence to various features of the claimed system

In particular, in rejecting claim 1 over the ***Shlomot*** reference, the Office Action suggests, in part, that ***Shlomot*** teaches:

> "determining a maximum delay period for receiving any missing packets based on a current level of the signal buffer" - a slow event occurs when the rate of arrival between packets into jitter buffer 260 is significantly lower than a predetermined replay rate, or is lower than a low threshold rate corresponding to a low threshold level ("based on a current level of the signal buffer") of jitter buffer 260; thus, "a maximum delay period for receiving any missing packets" is defined by a slow event, which is a function of the fullness of jitter buffer 260;"

Unfortunately, the above quoted argument fails completely to address the claimed limitations for which is offered. In particular, the Office Action first argues that "a ***slow event*** occurs when the rate of arrival between packets…is lower than a low threshold rate corresponding to a low threshold level… of jitter buffer 260…" The Office Action then argues that this "slow event" corresponds to the claimed limitation of "***determining a maximum delay period***… based on a current level of the signal buffer…" In other words, the Office Action appears to argue that the ***Shlomot*** reference defines a "slow event" based on a "low threshold level… of jitter buffer 260" and that this "slow event" corresponds to the claimed ***determination*** of a ***maximum delay period for receiving missing packets*** based on a current level of the signal buffer.

First, it should be noted that the claimed "***maximum delay period***" is a period ***during which missing packets can still be received***, and which controls how data in the signal buffer preceding the missing packets is stretched. In particular, the claimed system first determines that a packet is missing based on the claimed "expected arrival time."

Next, the claimed system evaluates the current level of the signal buffer and ***decides how long it can wait for the missing packet based on the current buffer level*** (i.e., "determining a maximum delay period for receiving any missing data packets based on a current level of the signal buffer"). Then, the claimed system again looks at the level of the signal buffer to determine whether to stretch the signal. Specifically, if a packet is "missing" ***and*** the buffer is below a threshold level, the claimed system stretches only the portion of the signal preceding the missing packet ***until such time as that packet is either received, or until the maximum delay period expires***.

In contrast, the "slow event" described by the ***Shlomot*** reference is merely a mechanism whereby a signal is stretched ***as soon as a packet arrives late*** or as soon as the "jitter buffer" falls below a particular level. More specifically, as illustrated by FIG. 4A of the ***Shlomot*** reference, and as described in col. 8, lines 1-40, upon identification of a "slow event" based on late packets or low jitter buffer level, the ***Shlomot*** reference begins stretching the contents of the signal buffer. For example, in describing the handling of a "slow event" in col. 8, lines 20-31, the ***Shlomot*** reference explains the following:

> "Since P5 does not arrive at time t+3, a slow event at time t+3 occurs… the speech decoder 240 expands the P3 speech packet… over two output speech segments… P6 and P7 arrive late, but since P3 was already expanded, the buffer is not empty and P4 and P5 are played at a normal rate. Since P8 now arrives before P6 is played, P6 and P7 are played out of the jitter buffer 260 in a fast play mode during time t+7."

In other words, it should be clear that the ***Shlomot*** reference provides a very simple process wherein stretching begins as soon as a packet is late (e.g., "P5 does not arrive at time t+3"), or when the buffer is too low, and stops stretching as soon as late packets arrive in time to sufficiently replenish the jitter buffer so that subsequent packets can be "played at a normal rate." *At no time does the **Shlomot** reference decide how long it can wait for a missing packet* (i.e., the claimed "*maximum delay period for receiving missing packets*"). Further, it should also be clear that in stark contrast to the claimed system, the

Shlomot reference also fails to provide any teaching for stretching ***only*** when the buffer level is below a threshold, and then only ***until*** either the missing packet is either received or the "**maximum delay period**" has been exceeded.

Further, it should also be noted that the claimed "maximum delay period" is clearly ***not*** the same as the claimed "expected arrival time" for receiving packets since the claimed maximum delay period is computed based on the buffer level only when packets have not arrived by the expected arrival time. The Office Action appears to confuse expected arrival times (e.g., "P5 does not arrive at time t+3") with the maximum delay period computed based on the signal buffer level. Clearly, the Office Action is in error regarding this point.

Clearly, the claimed system is neither disclosed, nor in any way rendered obvious, by the cited ***Shlomot*** reference. Consequently, in view of the preceding discussion, it is clear that the present invention, as claimed by independent claim 1 has elements not disclosed in the ***Shlomot*** reference. Consequently, the rejection of claim 1 under 35 U.S.C. §102(b) is not proper. Therefore, the Applicants respectfully traverse the rejection of claim 1 and the claims dependent therefrom, and respectfully request reconsideration of the rejection of these claims under 35 U.S.C. §102(b) in view of the language of claim 1. In particular, claim 1 recites the following novel language:

> "A system for providing adaptive playback of an audio signal received across a packet-based network, comprising:
>
> storing data packets comprising a received audio data signal to a signal buffer;
>
> outputting parts of the signal present in the signal buffer as needed for signal playback;
>
> analyzing the data packets contained in the signal buffer to determine whether any data packets are missing, having not been received into the signal buffer by an expected arrival time;

determining a maximum delay period for receiving any missing data packets based on a current level of the signal buffer;

stretching at least part of the signal preceding the missing data packets present in the signal buffer, until any of receiving the missing data packets and exceeding the maximum delay period, when the analysis of the contents of the signal buffer indicates that the length of the signal in the signal buffer is less than a predetermined threshold; and

compressing at least part of the signal present in the signal buffer when the analysis of the contents of the signal buffer indicates that the length of the signal in the signal buffer is greater than a predetermined threshold." (emphasis added)

1.2 Rejection of Independent Claim 8:

The Office Action rejected independent claim 8 under 35 U.S.C. §102(b) based on the rationale that the ***Shlomot*** reference teaches the Applicants' claimed "system for providing an adaptive playback of received frames of an audio signal transmitted across a packet-based network…" However, the Applicants respectively suggest that independent claim 8 is patentably distinct from the cited reference, and that the Office Action has incorrectly characterized the ***Shlomot*** reference in an attempt to show equivalence to various features of the claimed system

First, it must be noted that in rejecting independent claim 8, the Office Action only addresses the first and last limitations of the total of seven limitations recited in claim 8. As such, the Office Action has failed to address five of the limitations of claim 8. Consequently, Applicants respectfully suggest that the rejection of claim 8 is invalid and must be withdrawn since it fails to address the majority of the limitations of claim 8.

However, Applicants would also like to point out that several of the limitations in claim 8 that were not addressed by the Office Action are similar to limitations of claim 1 that were addressed by the Office Action. Thus, Applicants will assume for purposes of argument that the Office Action intended to present similar arguments with respect to the

limitations of claim 8. As such, Applicants will address several of the arguments presented by the Office Action with respect to claim 1 as then may or may not apply to the limitations of claim 8.

For example, in rejecting claim 1 over the ***Shlomot*** reference, the Office Action suggests, in part, that ***Shlomot*** teaches:

> "determining a maximum delay period for receiving any missing packets based on a current level of the signal buffer" - a slow event occurs when the rate of arrival between packets into jitter buffer 260 is significantly lower than a predetermined replay rate, or is lower than a low threshold rate corresponding to a low threshold level ("based on a current level of the signal buffer") of jitter buffer 260; thus, "a maximum delay period for receiving any missing packets" is defined by a slow event, which is a function of the fullness of jitter buffer 260;"

Claim 8 also includes a limitation which recites "determining a maximum delay period for receiving any missing data packets based on a current level of the signal buffer…" Unfortunately, the above quoted argument fails completely to address the claimed limitations for which is offered. In particular, the Office Action first argues that "a ***slow event*** occurs when the rate of arrival between packets…is lower than a low threshold rate corresponding to a low threshold level… of jitter buffer 260…" The Office Action then argues that this "slow event" corresponds to the claimed limitation of "***determining a maximum delay period***… based on a current level of the signal buffer…" In other words, the Office Action appears to argue that the ***Shlomot*** reference defines a "slow event" based on a "low threshold level… of jitter buffer 260" and that this "slow event" corresponds to the claimed ***determination*** of a ***maximum delay period for receiving missing packets*** based on a current level of the signal buffer.

First, it should be noted that the claimed "***maximum delay period***" is a period ***during which missing packets can still be received***, and which controls how data in the signal buffer preceding the missing packets is stretched. In particular, the claimed system

first determines that a packet is missing based on the claimed "expected arrival time." Next, the claimed system evaluates the current level of the signal buffer and ***decides how long it can wait for the missing packet based on the current buffer level*** (i.e., "determining a maximum delay period for receiving any missing data packets based on a current level of the signal buffer"). Then, the claimed system again looks at the level of the signal buffer to determine whether to stretch the signal. Specifically, if a packet is "missing" ***and*** the buffer is below a threshold level, the claimed system stretches only the portion of the signal preceding the missing packet ***until such time as that packet is either received, or until the maximum delay period expires***.

In contrast, the "slow event" described by the ***Shlomot*** reference is merely a mechanism whereby a signal is stretched ***as soon as a packet arrives late*** or as soon as the "jitter buffer" falls below a particular level. More specifically, as illustrated by FIG. 4A of the ***Shlomot*** reference, and as described in col. 8, lines 1-40, upon identification of a "slow event" based on late packets or low jitter buffer level, the ***Shlomot*** reference begins stretching the contents of the signal buffer. For example, in describing the handling of a "slow event" in col. 8, lines 20-31, the ***Shlomot*** reference explains the following:

> "Since P5 does not arrive at time t+3, a slow event at time t+3 occurs… the speech decoder 240 expands the P3 speech packet… over two output speech segments… P6 and P7 arrive late, but since P3 was already expanded, the buffer is not empty and P4 and P5 are played at a normal rate. Since P8 now arrives before P6 is played, P6 and P7 are played out of the jitter buffer 260 in a fast play mode during time t+7."

In other words, it should be clear that the ***Shlomot*** reference provides a very simple process wherein stretching begins as soon as a packet is late (e.g., "P5 does not arrive at time t+3"), or when the buffer is too low, and stops stretching as soon as late packets arrive in time to sufficiently replenish the jitter buffer so that subsequent packets can be "played at a normal rate." *At no time does the* ***Shlomot*** *reference decide how long it can wait for a missing packet* (i.e., the claimed "*maximum delay period for receiving missing*

packets"). Further, it should also be clear that in stark contrast to the claimed system, the ***Shlomot*** reference also fails to provide any teaching for stretching ***only*** when the buffer level is below a threshold, and then only ***until*** either the missing packet is either received or the "**maximum delay period**" has been exceeded.

Further, it should also be noted that the claimed "maximum delay period" is clearly ***not*** the same as the claimed "expected arrival time" for receiving packets since the claimed maximum delay period is computed based on the buffer level only when packets have not arrived by the expected arrival time. The Office Action appears to confuse expected arrival times (e.g., "P5 does not arrive at time t+3") with the maximum delay period computed based on the signal buffer level. Clearly, the Office Action is in error regarding this point.

Clearly, the claimed system is neither disclosed, nor in any way rendered obvious, by the cited ***Shlomot*** reference. Consequently, in view of the preceding discussion, it is clear that the present invention, as claimed by independent claim 8 has elements not disclosed in the ***Shlomot*** reference. Consequently, the rejection of claim 8 under 35 U.S.C. §102(b) is not proper. Therefore, the Applicants respectfully traverse the rejection of claim 8 and the claims dependent therefrom, and respectfully request reconsideration of the rejection of these claims under 35 U.S.C. §102(b) in view of the language of claim 8. In particular, claim 8 recites the following novel language:

> "A system for providing an adaptive playback of received frames of an audio signal transmitted across a packet-based network, comprising:
>
> receiving and decoding data frames of an audio signal transmitted across a packet-based network;
>
> storing the decoded data frames to a signal buffer;
>
> analyzing the contents of the signal buffer to determine whether any data frames are missing due to corresponding data packets having not been received by an ***expected arrival time***;

determining a maximum delay period for receiving any missing data packets based on a current level of the signal buffer;

outputting one or more of the decoded frames present in the signal buffer when the analysis of the contents of the signal buffer indicates that the length of the signal in the signal buffer is between a predetermined minimum and a predetermined maximum buffer size;

stretching and outputting one or more decoded frames preceding the missing data packets in the signal buffer, ***until any of receiving the missing data packets and exceeding the maximum delay period***, ***when the analysis of the contents of the signal buffer indicates that the length of the decoded frames in the signal buffer is less than the predetermined minimum buffer size***; and

compressing and outputting one or more decoded frames in the signal buffer when the analysis of the contents of the signal buffer indicates that the length of the decoded frames in the signal buffer is greater than the predetermined maximum buffer size." (emphasis added)

2.0 Rejections under 35 U.S.C. §103(a):

The Office Action rejected dependent claims 3-4, 5-6, 7, 12-15, 16-17, 19, and 21 under 35 U.S.C. §103(a) based on the rationale that the ***Shlomot*** reference discloses the Applicants claimed systems when combined with various additional references. However, as discussed above in Sections 1.1 and 1.2, the parent claims (i.e., claims 1 and 8) of dependent claims 3-4, 5-6, 7, 12-15, 16-17, 19, and 21 have been shown to be allowable in view of the cited ***Shlomot*** reference. Therefore, the use of additional references in an attempt to address particular features of various dependent claims fails to show a prima facie case of obviousness as required under 35 U.S.C. §103(a). Therefore, the Applicants respectfully traverse the rejection of claims 3-4, 5-6, 7, 12-15, 16-17, 19, and 21 in view of the patentability of their respective parent claims, as discussed above.

CONCLUSION

In view of the above discussion, it is respectfully submitted that claims 1-21 are in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of claims 1-17, 19 and 21, and objection to claims 18 and 20, and to pass this application to issue at the earliest opportunity. Additionally, in an effort to further the prosecution of the subject application, the Applicant kindly invites the Examiner to telephone the Applicant's attorney at (805) 278-8855 if the Examiner has any additional questions or concerns.

Respectfully submitted,

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